

SEQUENCE LISTING

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<120> COMPOSITIONS AND METHODS FOR WT1
SPECIFIC IMMUNOTHERAPY

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<141> 2002-07-12

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 <211> 32
 <212> PRT
 <213> Homo sapien

<400> 313
 Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu
 1 5 10 15

Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
 20 25 30

<210> 314
 <211> 32
 <212> PRT
 <213> Homo sapien

<400> 314
 Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg
 1 5 10 15

Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser
 20 25 30

<210> 315
 <211> 4
 <212> PRT
 <213> Homo sapien

<400> 315
 Arg Tyr Phe Lys
 1

<210> 316

<211> 14
 <212> PRT
 <213> Homo sapien

<400> 316
 Glu Arg Arg Phe Ser Arg Ser Asp Gln Leu Lys Arg His Gln
 1 5 10

<210> 317
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 317
 Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr
 1 5 10 15
 His Thr Gly Lys Thr Ser
 20

<210> 318
 <211> 21
 <212> PRT
 <213> Homo sapien

<400> 318
 Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn
 1 5 10 15
 Met His Gln Arg Asn
 20

<210> 319
 <211> 449
 <212> PRT
 <213> Homo sapien

<400> 319
 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
 1 5 10 15
 Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Ala Pro Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
 65 70 75 80
 Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
 85 90 95
 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
 100 105 110
 Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
 115 120 125
 Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
 130 135 140

Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
 145 150 155 160
 Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
 165 170 175
 Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
 180 185 190
 Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
 195 200 205
 Cys Thr Gly Ser Gln Ala Leu Leu Arg Thr Pro Tyr Ser Ser Asp
 210 215 220
 Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
 225 230 235 240
 Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser
 245 250 255
 Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu
 260 265 270
 Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile
 275 280 285
 His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro
 290 295 300
 Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys
 305 310 315 320
 Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys
 325 330 335
 Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro
 340 345 350
 Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp
 355 360 365
 Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln
 370 375 380
 Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
 385 390 395 400
 His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys
 405 410 415
 Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
 420 425 430
 Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
 435 440 445
 Leu

<210> 320
 <211> 449
 <212> PRT
 <213> Mus musculus

<400> 320
 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Ser
 1 5 10 15
 Ser Leu Gly Gly Gly Gly Cys Gly Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Ala Pro Pro Pro Pro Pro

50	55	60													
Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly
65						70			75						80
Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Leu	His	Phe
						85			90					95	
Ser	Gly	Cln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe
						100			105					110	
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe
						115			120				125		
Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Thr	Ile
						130			135				140		
Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Ala	Pro	Ser	Tyr
145						150			155					160	
Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe
						165			170				175		
Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln	
						180			185				190		
Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser
						195			200				205		
Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp
						210			215				220		
Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln
225						230			235				240		
Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	Met	Ala	Ala	Gly	Ser	Ser	Ser
						245			250				255		
Ser	Val	Lys	Trp	Thr	Glu	Gly	Gln	Ser	Asn	His	Gly	Ile	Gly	Tyr	Glu
						260			265				270		
Ser	Asp	Asn	His	Thr	Ala	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile
						275			280				285		
His	Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Ser
						290			295				300		
Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys
305						310			315				320		
Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys
						325			330				335		
Leu	Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro
						340			345				350		
Tyr	Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Ser	Arg	Ser	Asp
						355			360				365		
Gln	Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln
						370			375				380		
Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr
385						390			395				400		
His	Thr	Arg	Thr	His	Thr	Gly	Lys	Thr	Ser	Glu	Lys	Pro	Phe	Ser	Cys
						405			410				415		
Arg	Trp	His	Ser	Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val
						420			425				430		
Arg	His	His	Asn	Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	His	Val	Ala
						435			440				445		
Leu															

<210> 321

<211> 9

<212> PRT
<213> Homo sapien and Mus musculus

<400> 321
Pro Ser Gln Ala Ser Ser Gly Gln Ala
1 5

<210> 322
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 322
Ser Ser Gly Gln Ala Arg Met Phe Pro
1 5

<210> 323
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 323
Gln Ala Arg Met Phe Pro Asn Ala Pro
1 5

<210> 324
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 324
Met Phe Pro Asn Ala Pro Tyr Leu Pro
1 5

<210> 325
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 325
Pro Asn Ala Pro Tyr Leu Pro Ser Cys
1 5

<210> 326
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 326
Ala Pro Tyr Leu Pro Ser Cys Leu Glu
1 5

<210> 327

<211> 1029
<212> DNA
<213> *Homo sapiens*

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<400> 327
atgcagacatc accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
tgcggccgt gcaaaatgtat cggcccgatt ctggatggaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaaccctg gcactgcgcc qaaatatggc 240
atccgtggta tcccgactct gctgctgttc aaaaacgggtg aagtggccgc aaccaaagtg 300
ggtgcactgt ctaaagggtca gttgaaaagag ttccctcgacg ctaacctggc cggttctgg 360
tctggccata tgcaagcatca ccaccatcac cacgtgtcta tcgaagtcg tgctagctct 420
ggtgtgcacgc gtctgggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaaatct 480
agttaggcaca gcacagggtt cggagacgat aaccacacaa cgcggccatct ctgcggagcc 540
caatacagaa tacacacgcgca cggtgtttc agaggcattt aggtatgtcg acgtgtgcct 600
ggagtagccc cgacttctgt acggtcggca tctgagacca gtgagaaaacg ccccttcatg 660
tgtgtcttacc caggtcgcaaa taagagatat tttaagctgt cccacttaca gatgcacagc 720
aggaagcaca ctggtgagaa accataccag tgtgacttca aggactgtga acgaagggtt 780
tttcgttccag accagctcaa aagacaccaa aggagacata caggtgtgaa accattccag 840
tgtaaaactt gtcagcgaaa gttctcccg tccgaccacc tgaagaccca caccaggact 900
catacagggtg aaaagccctt cagctgtcggtt gggccaagggtt gtcagaaaaaa gtttgcgg 960
tcagatgaat tagtccgcca tcacaacatg catcagagaa acatgaccaaa actccagctg 1020
gcgtttga                                              1029

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<210> 328
<211> 1233
<212> DNA
<213> *Homo sapiens*

<400> 328
 atgcagcata accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
 tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
 tgcggtcgt gcaaaatgtat cgcggccatt ctggatgaaa tcgctgacga atatcagggc 180
 aaactgaccg ttgaaaactt gAACATCGAT cAAACCCCTG gcactgcGCC gAAATATGGC 240
 atccgtggta tcccgactct gctgctgttc aaaaacggtg aagtggggc aaccaaaagtg 300
 ggtgcactgt ctaaaggta gttgaaagag ttccctgacg ctaacctggc cgggtctgg 360
 tctggccata tgcaagcatca ccaccatcac cacgtgtcta tcgaaggctcg tgctagctct 420
 ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
 agtaggggct ccgacgttcg tgacctgaac gcactgctgc cggcagttcc gtccctgggt 540
 ggtgggtgt gttgcgcact gccggtagc ggtgcagcac agtgggctcc ggttctggac 600
 ttgcgcacccg cgggtgcata cgcatacggc tccctgggtg gtccggcacc gcccggcga 660
 cccggccgcg cgcggccgccc gccggccgac tccttcatca aacaggaacc gagctgggt 720
 ggtgcagaac cgcacgaaga acagtgcctg agccattca cggttcaactt ctccggccag 780
 ttcaactggca cagccggagc ctgtcgctac gggcccttcg gtcctctcc gcccagccag 840
 gcgtcatccg gccaggccag gatgtttctt aacgcgcctt acctgcccag ctgcctcgag 900
 agccagcccg ctattcgaa tcagggttac agcacggta ccttcgacgg gacgcccagc 960
 tacggtcaca cgcctcgca ccatgcggcg cagttccccca accactcatt caagcatgag 1020
 gatcccatgg gccagcaggg ctgcgtgggt gagcagcagt actcggtgcc gccccggtc 1080
 tatggctgcc acaccccccac cgacagctgc accggcagcc aggctttgtct gctgaggacg 1140
 ccctacagca gtgacaattt ataccaaattt acatcccagc ttgaatgcat gacctggaaat 1200
 caqatqaact taqqaqccac cttaaaggqc tqa 1233

<210> 329
<211> 1776

<212> DNA

<213> Homo sapiens

<400> 329

atgcagcatc accaccatca ccacatgagc gataaaatta ttacacctgac tgacgacagt 60
 tttgacacgg atgtactcaa agcggacggg gcgatctcg tcgatttctg ggcagagtgg 120
 tgcggccgt gcaaaatgtat cgcccccattt ctggataaa tcgctgacga atatcagggc 180
 aaactgaccc ttgcaaaactt gaacatcgat caaaaacctg gcactgcgcc gaaatatggc 240
 atccgtggta tcccgaactt gctgctgttc aaaaacggtg aagtggccgc aaccaaagtg 300
 gttgcactgt ctaaaggtaa gtgaaagag ttccctgacg ctaacctggc cggttctgg 360
 tctggccata tgcagcatca ccaccatcac cacgtgtcta tcaaggtcg tgctagctct 420
 ggtggcagcg gtctggttcc gctgtgttc tctgggtcg gggacgacga cgacaaatct 480
 attaggatgg gctccgacgt tcgtgacctg aacgcactgc tgccggcagt tccgtccctg 540
 ggtgggtggt gtgggtgcgc actgcccgtt agcggtgacg cacagtggc tccgttctg 600
 gacttcgcac cgccgggtgc atccgcatac gttccctgg gtgggtccgc accgcccgg 660
 gcaccgcgc cgccgcgcgc gcccgcgcgc cactcctca tcaaacagga accgagctgg 720
 ggtggtgacg aaccgcacga agaacagtgc ctgagcgcattt tcaaccgttca cttctccgg 780
 cagttcaactg gcacagccgg agcctgtcgc tacggggctt tcggcccttcc tccgcccagg 840
 caggcgtcat ccggccaggc caggatgttt cctaacgcgc cctacctgccc cagctgcctc 900
 gagagccagc ccgttatttcg caatcagggt tacagcacgg tcaaccgttca cgggacgccc 960
 agctacggtc acacgccttc gcaccatgcg ggcgcgttcc ccaaccactc attcaagcat 1020
 gaggatccca tgggcccggca gggctcgctg ggtgagcaggc agtactcggt gcccggccgg 1080
 gtctatggct gccacaccccc caccgcacgc tgcacccggca gcccaggctt gctgctgagg 1140
 acgcctaca gcagtgacaa ttataccatc atgacatccc agcttgaatg catgacccgtt 1200
 aatcagatga acttaggagc caccctaaag gcccacagca cagggtacga gaggcataac 1260
 cacacaacgc ccattcttcg cggagcccaa tacagaatac acacgcacgg tgtttcaga 1320
 ggcattcagg atgtgcgacg tggcctggat gtagcccgat ctttgcgttgcgtt gtcggcatct 1380
 gagaccaggta agaaaacgcggcc cttcatgtgt gcttaccggat gctgcaataa gagatatttt 1440
 aagctgtccc acttacagat gcacagcagg aagcacactg gtgagaaaacc ataccaggatgt 1500
 gacttcaagg actgtgaacg aagggtttt cgttcaagacc agctaaaag acaccaaagg 1560
 agacatacag gtgtgaaacc attccaggatgtt aaaaactgtc agcggaaagtt ctcccggtcc 1620
 gaccacccatca agacccacac caggactcat acaggtaaaa agcccttca gtcgtgtgg 1680
 ccaagttgtc agaaaaaaatggcc tggccgtca gatgaatttgcgttccgcattca caacatgcatt 1740
 cagagaaaca tgacccaaactt ccagctggcg ctttgcgtt 1776

<210> 330

<211> 771

<212> DNA

<213> Homo sapiens

<400> 330

atgcagcatc accaccatca ccacggctcc gacgttcgtg acctgaacgc actgctgccg 60
 gcagttccgt ccctgggtgg tgggtgggt tgcgcactgc cggttagccg tgcagcacag 120
 tgggctccgg ttctggactt cgccacccggc ggtgcacccggc catacggttc cttgggtgg 180
 cccgcacccgc cgccggcacc gcccgcgcgc cccgcgcgcgc cccgcactc cttcatcaaa 240
 caggaaccga gctgggggtgg tgcagaacccg cacgaagaac agtgcctgag cgccattcacc 300
 gtcacttctt ccggccaggat cactggcaca gcccggccctt gtcgcacccggat gcccggccgt 360
 ccttcctccgc ccagccaggc gtcacccggc caggccaggat tggccatccaa cgcgccttac 420
 ctgcccaggat gcctcgagat ccagcccgat attcgcaatc agggttacag cacggtcacc 480
 ttgcacggat ccggccaggat cgttcacccggc ccctcgacc atgcggccgat gttcccaac 540
 cactcattca agcatgagga tcccatgggc caggaggat cgtgggtggat gcaaggatc 600
 tcgggtccgc ccccggtctca tggctgcccac accccacccgg acagctgcac cggcaggccag 660
 gcttgcgttgc tgaggacgccc ctacaggat gacaatttaccatca accaaatgac atcccgatctt 720
 gaatgcattca cctggaaatca gatgaacttta ggagccacccctt taaagggtgtt a 771

<210> 331
<211> 567
<212> DNA
<213> *Homo sapiens*

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<400> 331
atgcagcatc accaccatca ccaccacagc acagggtagc agagcgataa ccacacaacg 60
cccatccctc gcggagccca atacagaata cacacgcacg gtgtcttcag aggatttcag 120
gatgtgcgac gtgtgcctgg agtagccccg actttgtac ggtcggcatc tgagaccagt 180
gagaaacgcc ccttcatgtg tgcttaccca ggctgcaata agagatattt taagctgtcc 240
cacttacaga tgcacacgag gaagcacact ggtgagaaac cataccagtg tgacttcaag 300
gactgtgaac gaaggaaaa tcgttcagac cagctaaaa gacaccaaa gagacataca 360
gggtgtgaac cattccagtg taaaacttgt cagcgaaagt tctcccggtc cgaccacgt 420
aagaccacca ccaggactca tacaggtgaa aagcccttca gctgtcggtg gccaagttgt 480
cagaaaaagt ttgccccgtc agatgaatta gtccggccatc acaacatgca tcagagaaac 540
atgaccaaac tccagctggc gctttga 567
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<210> 332
<211> 342
<212> PRT
<213> *Homo sapiens*

<400> 332
 Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu
 5 10. 15
 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
 20 25 30
 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
 35 40 45
 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
 50 55 60
 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
 65 70 75 80
 Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
 85 90 95
 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
 100 105 110
 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
 115 120 125
 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
 130 135 140
 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Asp Lys Ser
 145 150 155 160
 Ser Arg His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile
 165 170 175
 Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly
 180 185 190
 Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg
 195 200 205
 Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro

210	215	220
Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser		
225	230	235
Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys		240
245	250	255
Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg		
260	265	270
His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe		
275	280	285
Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu		
290	295	300
Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg		
305	310	315
Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr		320
325	330	335
Lys Leu Gln Leu Ala Leu		
340		

<210> 333
<211> 410
<212> PRT
<213> Homo sapiens

<400> 333		
Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu		
5	10	15
Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile		
20	25	30
Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala		
35	40	45
Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val		
50	55	60
Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly		
65	70	75
Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala		80
85	90	95
Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu		
100	105	110
Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His		
115	120	125
His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly		
130	135	140
Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Asp Lys Ser		
145	150	155
Ser Arg Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val		160
165	170	175
Pro Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala		
180	185	190
Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala		
195	200	205
Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro		
210	215	220

Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly
 225 230 235 240
 Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His
 245 250 255
 Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro
 260 265 270
 Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met
 275 280 285
 Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala
 290 295 300
 Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser
 305 310 315 320
 Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser
 325 330 335
 Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln
 340 345 350
 Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp
 355 360 365
 Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser
 370 375 380
 Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn
 385 390 395 400
 Gln Met Asn Leu Gly Ala Thr Leu Lys Gly
 405 410

<210> 334

<211> 591

<212> PRT

<213> Homo sapiens

<400> 334

Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu
 5 10 15
 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
 20 25 30
 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
 35 40 45
 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
 50 55 60
 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
 65 70 75 80
 Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
 85 90 95
 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
 100 105 110
 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
 115 120 125
 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
 130 135 140
 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Asp Lys Ser
 145 150 155 160
 Ser Arg Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala
 165 170 175

Val Pro Ser Leu Gly Gly Gly Cys Ala Leu Pro Val Ser Gly
 180 185 190
 Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser
 195 200 205
 Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro
 210 215 220
 Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp
 225 230 235 240
 Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val
 245 250 255
 His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly
 260 265 270
 Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg
 275 280 285
 Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro
 290 295 300
 Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro
 305 310 315 320
 Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His
 325 330 335
 Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu
 340 345 350
 Gln Gln Tyr Ser Val Pro Pro Val Tyr Gly Cys His Thr Pro Thr
 355 360 365
 Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser
 370 375 380
 Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp
 385 390 395 400
 Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr
 405 410 415
 Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg
 420 425 430
 Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val
 435 440 445
 Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu
 450 455 460
 Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe
 465 470 475 480
 Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys
 485 490 495
 Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser
 500 505 510
 Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe
 515 520 525
 Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys
 530 535 540
 Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp
 545 550 555 560
 Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His
 565 570 575
 His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 580 585 590

<210> 335
 <211> 256
 <212> PRT
 <213> Homo sapiens

<400> 335
 Met Gln His His His His His Gly Ser Asp Val Arg Asp Leu Asn
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 Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys Ala
 20 25 30
 Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
 35 40 45
 Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
 50 55 60
 Pro Ala Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
 65 70 75 80
 Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
 85 90 95
 Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly
 100 105 110
 Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser
 115 120 125
 Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys
 130 135 140
 Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr
 145 150 155 160
 Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala
 165 170 175
 Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln
 180 185 190
 Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Val Tyr Gly
 195 200 205
 Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu
 210 215 220
 Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
 225 230 235 240
 Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly
 245 250 255

<210> 336
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 336
 Met Gln His His His His His Ser Thr Gly Tyr Glu Ser Asp
 5 10 15
 Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr
 20 25 30
 His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val
 35 40 45
 Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro

50	55	60													
Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys	Leu	Ser
65															80
His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro	Tyr	Gln
															95
Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg	Ser	Asp	Gln	Leu
															100
Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln	Cys	Lys
															110
115															125
Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr
															130
145															140
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg	Trp	Pro	Ser	Cys
															155
Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	His	Asn	Met
															160
165															175
His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu				
															180
															185

<210> 337

<211> 324

<212> DNA

<213> Homo sapiens

<400> 337

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gcagttccat	ccctgggtgg	cggtggaggc	tgcgcaactgc	cggttagcgg	tgcagcacag	120
tgggtctccag	ttctggactt	cgcaccgcct	ggtgcatccg	catacggttc	cctgggtgg	180
ccagcacctc	cggcccaac	ggcccccacccg	cctccaccgc	ccccgcactc	cttcatcaaa	240
caggaaccta	gctggggtgg	tgcagaacccg	cacgaagaac	agtgcctgag	cgcattctga	300
gaattctgca	gatatccatc	acac				324

<210> 338

<211> 462

<212> DNA

<213> Homo sapiens

<400> 338

atgcagcatc	accaccatca	ccaccacgaa	gaacagtgcc	tgagcgcatt	caccgttcac	60
ttctccggcc	agttcaactgg	cacagccgga	gcctgtcgct	acggggccctt	cggtccctcct	120
ccgcccagcc	aggcgtcatc	cgccaggcc	aggatgttc	ctaacgcgc	ctacctgccc	180
agctgcctcg	agagccagcc	cgctatttcgc	aatcagggtt	acagcacqgt	caccttcgac	240
gggacgcca	gctacggtca	cacgcctcg	cacatgcgg	cgcagttccc	caaccactca	300
ttcaagcatg	aggatccat	gggcccagcag	ggctcgctgg	gtgagcagca	gtactcggtg	360
ccgccccccg	tctatggctg	ccacaccccc	accgacagct	gcacccggcag	ccaggcttg	420
ctgctgagga	cgcctacag	cagtgacaat	ttatactgat	ga		462

<210> 339

<211> 405

<212> DNA

<213> Homo sapiens

<400> 339

atgcagcatc	accaccatca	ccaccaggct	ttgctgctga	ggaccccta	cagcagtgac	60
aatttataacc	aaatgacatc	ccagcttcaa	tgcatgacct	ggaatcagat	gaacttagga	120

gccacctaa agggccacag cacagggta cagagcgata accacacaac gcccattc 180
 tgcggagccc aatacagaat acacacgcac ggtgtttca gaggcattca ggatgtgc 240
 cgtgtgcctg gagtagcccc gactttgtt cggcggcat ctgagaccag tgagaaacgc 300
 cccttcatgt gtgttaccc aggctgcaat aagagatatt ttaagctgtc ccacttacag 360
 atgcacagca ggaagcacac tggtagaaaa ccataccatgatg 405

<210> 340
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 340
 atgcagcatc accaccatca ccaccacagc aggaagcaca ctggtagaa accataccag 60
 tgtgacttca aggactgtga acgaagggtt ttgcgttcag accagctaa aagacaccaa 120
 aggagacata caggtgtgaa accattccag tgtaaaactt gtcagcgaaa gttctccgg 180
 tccgaccacc tgaagaccca caccaggact catacaggta aaaagccctt cagctgtcg 240
 tggcaagtt gtcagaaaaa gtttgcggc tcagatgaat tagtccgcca tcacaacatg 300
 catcagagaa acatgaccaa actccagctg gcgcttga 339

<210> 341
 <211> 1110
 <212> DNA
 <213> Homo sapiens

<400> 341
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 gcagaaccgc acgaagaaca gtcgttgcggc gcatcattccg ttcatcttc cggccatcc 120
 actggcacag ccggagcctg tcgttacggg cccttcggtc ctccctccggc cagccaggcg 180
 tcattccggcc aggccaggat gtttcttaac ggccttacc tgcccagctg cctcgagagc 240
 cagcccgcta ttgcataatca gggttacagc acggtcacct tcgacgggac gcccagctac 300
 gtcacacgc cctcgacca tgcggcgcag ttcccaacc actcattcaa gcatgaggat 360
 cccatggggc agcagggttc gctgggttag cagcgtact cggtgcgc cccggcttat 420
 ggctgccaca ccccccacccg cagctgcacc ggcaggccagg ctttgcgtct gaggacgccc 480
 tacagcgtg acaattata ccaaattgaca tcccaagctt aatgcattgac ctggaaatcag 540
 atgaacttag gagccaccc aaaggccac agcacagggt acggagacgta taaccacaca 600
 acgccccatcc tctgcggagc ccaatacaga atacacacgc acgggtgttt cagaggcatt 660
 caggatgtgc gacgtgtgc tggagtagcc ccgacttgc tacggcggc atctgagacc 720
 agtggagaaac gccccttcat gtgtgtttac ccaggctgca ataagagata ttttaagctg 780
 tcccaacttac agatgcacag caggaaggac actgggtgaa aaccatacca gtgtgacttc 840
 aaggactgtg aacgaagggt ttttgcgttca gaccagctca aaagacacca aaggagacat 900
 acaggtgtga aaccattcca gtgtaaaact tgcagcgaa agttctcccg gtccgaccac 960
 ctgaagaccc acaccaggac tcatacaggt gaaaagccct tcaagctgtcg gtggccaagt 1020
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 aacatgacca aactccagct ggcgcttga 1110

<210> 342
 <211> 99
 <212> PRT
 <213> Homo sapiens

<400> 342

Met Gln His His His His His Gly Ser Asp Val Arg Asp Leu Asn
 5 10 15
 Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys Ala
 20 25 30
 Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
 35 40 45
 Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
 50 55 60
 Pro Ala Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
 65 70 75 80
 Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
 85 90 95
 Ser Ala Phe

<210> 343
 <211> 152
 <212> PRT
 <213> Homo sapiens

<400> 343
 Met Gln His His His His His Glu Glu Gln Cys Leu Ser Ala
 5 10 15
 Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys
 20 25 30
 Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly
 35 40 45
 Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu
 50 55 60
 Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp
 65 70 75 80
 Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe
 85 90 95
 Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser
 100 105 110
 Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His
 115 120 125
 Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr
 130 135 140
 Pro Tyr Ser Ser Asp Asn Leu Tyr
 145 150

<210> 344
 <211> 133
 <212> PRT
 <213> Homo sapiens

<400> 344
 Met Gln His His His His His Gln Ala Leu Leu Leu Arg Thr Pro
 5 10 15
 Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
 20 25 30
 Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr

35	40	45	
Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln			
50	55	60	
Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg			
65	70	75	80
Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr			
85	90	95	
Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg			
100	105	110	
Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly			
115	120	125	
Glu Lys Pro Tyr Gln			
130			

<210> 345
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 345			
Met Gln His His His His His Ser Arg Lys His Thr Gly Glu			
5	10	15	
Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg			
20	25	30	
Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro			
35	40	45	
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu			
50	55	60	
Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg			
65	70	75	80
Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg			
85	90	95	
His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu			
100	105	110	

<210> 346
 <211> 369
 <212> PRT
 <213> Homo sapiens

<400> 346			
Met Gln His His His His His Ser Phe Ile Lys Gln Glu Pro			
5	10	15	
Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe			
20	25	30	
Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg			
35	40	45	
Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln			
50	55	60	
Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser			
65	70	75	80
Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly			

85	90	95	
Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro			
100	105	110	
Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu			
115	120	125	
Gly Glu Gln Gln Tyr Ser Val Pro Pro Val Tyr Gly Cys His Thr			
130	135	140	
Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro			
145	150	155	160
Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met			
165	170	175	
Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr			
180	185	190	
Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln			
195	200	205	
Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg			
210	215	220	
Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr			
225	230	235	240
Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg			
245	250	255	
Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly			
260	265	270	
Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe			
275	280	285	
Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys			
290	295	300	
Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His			
305	310	315	320
Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys			
325	330	335	
Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val			
340	345	350	
Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala			
355	360	365	
Leu			

<210> 347
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 347
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<210> 348
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>		
<223> Primer		
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gaattctcaa agcgccagct ggagttgg	30	
<210> 349		
<211> 21		
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ggctccgacg tgcgggacct g	21	
<210> 350		
<211> 30		
<212> DNA		
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gaattctcaa agcgccagct ggagttgg	30	
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cacagcacag ggtacgagag c	21	
<210> 352		
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gaattctcaa agcgccagct ggagttgg	30	
<210> 353		
<211> 29		
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<220>		
<223> Primer		
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cacgaagaac agtgcctgag cgcatcac		29
<210> 354		
<211> 32		
<212> DNA		
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<400> 354		
ccggcgaatt catcagtata aattgtcact gc		32
<210> 355		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
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<223> Primer		
<400> 355		
caggcttgc tgctgaggac gccc		24
<210> 356		
<211> 34		
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<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 356		
cacggagaat tcatcaactgg tatggttct cacc		34
<210> 357		
<211> 28		
<212> DNA		
<213> Artificial Sequence		
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<223> Primer		
<400> 357		
cacagcagga agcacactgg tgagaaac		28
<210> 358		
<211> 30		
<212> DNA		

<213> Artificial Sequence		
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<400> 358		
ggatatctgc agaattctca aagcgccagc	30	
<210> 359		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
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cactccttca tcaaacagga ac	22	
<210> 360		
<211> 30		
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<213> Artificial Sequence		
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<223> Primer		
<400> 360		
ggatatctgc agaattctca aagcgccagc	30	
<210> 361		
<211> 33		
<212> DNA		
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ggttccgacg tgcgggacct gaacgcactg ctg	33	
<210> 362		
<211> 40		
<212> DNA		
<213> Artificial Sequence		
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ctgccggcag cagtgcgttc aggtcccgca cgtcggaacc	40	
<210> 363		
<211> 35		

<212> DNA		
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<210> 364		
<211> 38		
<212> DNA		
<213> Artificial Sequence		
<220>		
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<210> 365		
<211> 35		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
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cgcactgccc gttagcggtg cagcacagtg ggctc		
<210> 366		
<211> 33		
<212> DNA		
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<220>		
<223> Primer		
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<210> 367		
<211> 38		
<212> DNA		
<213> Artificial Sequence		
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<223> Primer		
<400> 367		38
cagttctgga cttcgacccg cctggtgcat ccgcatac		
<210> 368		

<211> 39	
<212> DNA	
<213> Artificial Sequence	
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<211> 38	
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<400> 369	
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<210> 370	
<211> 38	
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<213> Artificial Sequence	
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<210> 371	
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<400> 371	
cccacccgcct ccaccgcccc cgcactcctt catcaaacag	40
<210> 372	
<211> 39	
<212> DNA	
<213> Artificial Sequence	
<220>	
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<400> 372	
ctagggttcct gtttgcgttggaa ggagtgccggg ggcggtggaa	39

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<210> 373
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 373
gaacctagct ggggtgggtgc agaaccgcac gaagaaca 38

<210> 374
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 374
ctcaggcact gttcttcgtg cggttctgca ccacccca 39

<210> 375
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 375
gtgcctgagc gcattctgag aattctgcag at 32

<210> 376
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 376
gtgtgatgga tatctgcaga attctcagaa tgcg 34

<210> 377
<211> 1292
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
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<223> n = A,T,C or G

<400> 377

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 gtcaccgcggc gtgcacccgc acacggtccc ctgggtggc cggcgcgcgc gtcggcaccg 180
 cccgcccgcgc cggccgcgc gcccgcactcc ttcatcaaac agggaccgag ctgggggtggc 240
 gcggaactgc ackaakaaca gtacctgagc gcgttccacc ttcaactcctc cggtcagggtt 300
 cactggcacg gcccgggcct gtcgctacgg gcccctcggc ccccccctccgc ccagccaggc 360
 gtcatccggc caggccagga tgcgtccctag cgcgcctgc ctgcccagcc gcctcgagag 420
 ccagccgcct acccgcaatc ggggctacag cacggtcacc ttgcacgggg cgtccggcta 480
 cggtcacacg ccctcgcacc atgcggcgca gttctcsmar yyactcgta ggcgtgagga 540
 tcccattgggc cagcagggtc cgctgggtga gcagcagtgc tcggcgcgc ccccgccctg 600
 tggccgcccc acccccccgc acagctgcgc cggcagccag gcttgcgtgc tgagggcgcc 660
 ctgttagcagc gacggtttat accaagtgcac gtcccagctt gatgtcatgg cctggagtca 720
 gatgagcctc gggggccct tamcgggcca cakyacargg tacgagagcg atgatcacac 780
 aacgccccgc ctctgcggag cccaaatacag aatacacacg cacgggtgcct tcaggggcgt 840
 tcagggtgtg cggcgctgtc ctggagtagc cccgactt gtagcgtcgg catctgaggc 900
 cagtgaggaa cggccccccta tgcgtgcctt cccaggctgc aataggaggt atctgaagct 960
 gccccgccta cagatgcacg gtaggaagaca cgctgtgtgag agaccatacc agtgtgactt 1020
 caaggactgt ggacggaggt ttttctgcgtc agaccggctc aaaagacacc agggggaggca 1080
 tacagatgtg aagccattcc agcgtaaagac ctgtcagcga gggttctccc ggcccaacca 1140
 cctgaagacc cacgcccagga ctcatgcagg tgaaaagccc cccagctgc ggtggcaga 1200
 ttgtcagaga aacgcgtcccc gtcgtcaagtgat gttggccgc catcgcgaca tgcgtcagag 1260
 gggcatgacc gaactccagc tggcgctttg aa 1292

<210> 378

<211> 1291

<212> DNA

<213> Homo sapiens

<400> 378

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 <212> DNA
 <213> Homo sapiens

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<212> DNA
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 <213> Homo sapiens

<400> 384

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<210> 385
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 <212> DNA
 <213> Homo sapiens

<400> 385

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<210> 386

<211> 648

<212> DNA

<213> Homo sapiens

<400> 386

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<210> 387

<211> 1089

<212> DNA

<213> Homo sapiens

<400> 387

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 caatacagaa tacacacgc cgggtcttc agaggcattc aggtatgtgc acgtgtgcct 660
 ggagtagccc cgacttctgt acggtcggca tctgagacca gtgagaaacg ccccttcatg 720
 tgtgcttacc caggctgca taagagatat tttaagctgt cccacttaca gatgcacagc 780
 aggaagcaca ctgggtgagaa accataccag tgcgtactca aggactgtga acgaaggtt 840
 ttccgttccatc accagctcaa aagacaccaa aggagacata cagggtgtgaa accattccatc 900
 tgtaaaactt gtcagcggaa gttctcccg tccgaccacc tgaagacccca caccaggact 960

catacaggtg aaaagccctt cagctgtcgg tggccaagtt gtcagaaaaa gtttgcccg 1020
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 gcgcttga 1089

<210> 388
 <211> 1035
 <212> DNA
 <213> Homo sapiens

<400> 388
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 accgccttcc tcggcttggg tttgtcgac aacaacggca acggcgacg agtccaacgc 180
 gtggtcggga ggcgtccggc gcaagtctc ggcacatccca cccggcgacgt gatcaccgcg 240
 gtcgacggcg ctccgatcaa ctccggccacc gcatggcg acgcgttac cgggcacatcat 300
 cccgggtacg tcatctcggt gacctggcaa accaagtccg gccgcacgcg tacagggAAC 360
 gtgacattgg ccgagggacc cccggccgaa ttccacttct tcatcaaaca ggaaccgagc 420
 tgggggtgtg cagaaccgca cagaagaacag tgcctgagcg cattcaccgt tcacttctcc 480
 ggcgcgttca ctggcacacg cggagcctgt cgctacggc cttccggcc ttctccgccc 540
 agccaggcgt catccggcca ggcaggatg ttccctaaccg cgccctaccc gcccagctgc 600
 ctcgagagcc agcccgctat tcgcaatcag gttacagca cggtcacctt cgacggacg 660
 cccagctacg gtcacacgccc ctgcacccat gccggcgacgt tcccaacca ctcatcaag 720
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 cccgtctatg gtcgcacac cccacccgac agtcgcaccc gcaaggccaggc ttgtctgt 840
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 aaccacacaa cgcgccttct ctgcggagcc caatacagaa tacacacgcg cgggtcttc 1020
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<210> 389
 <211> 1263
 <212> DNA
 <213> Homo sapiens

<400> 389
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 accgccttcc tcggcttggg tttgtcgac aacaacggca acggcgacg agtccaacgc 180
 gtggtcggga ggcgtccggc gcaagtctc ggcacatccca cccggcgacgt gatcaccgcg 240
 gtcgacggcg ctccgatcaa ctccggccacc gcatggcg acgcgttac cgggcacatcat 300
 cccgggtacg tcatctcggt gacctggcaa accaagtccg gccgcacgcg tacagggAAC 360
 gtgacattgg ccgagggacc cccggccgaa ttccgcgtt gcccgcgcgg cagccgcgt 420
 ggctccgacg ttccggaccc gacgcactg ctgcggcag ttccgtccct ggggtgtgt 480
 ggtgggtcg cactgcggcgt tagcggtgca gcacagtggg ctccggcttgc 540
 ccgcgggtg catccgcata cggtccctg ggtgggtccgg caccgcgcgc ggcaccgcgc 600
 ccgcggcgcc cgccgcgcgc gcaactccctt atcaaacagg aaccgagctg ggggtgtgca 660
 gaaccgcacg aagaacagt cctgagcgca ttccacccgtt acttctccgg ccagttact 720
 ggcacagccg ggcgcgttgc ctacgggccc ttccgttctt ccgcggccag ccaggcgat 780
 tccggccagg ccaggatgtt tccataacgcg ccctactgc ccagctgcct cgagagccag 840
 cccgctattt gcaatcaggg ttacagcgcg gtcacccgtt acgggcacgcg cagctacgg 900
 cacacgcctt cgcaccatgc ggcgcgttgc cccaaacact cattcaagca tgaggatccc 960
 atggggccagg agggctcgct gggtgagcag cagtaactccg tggccgcggcc ggtctatggc 1020
 tggccacaccc ccaccgcacag ctgcaccggc agccaggctt tgcgtctgag gacgcctac 1080
 agcagtgaca atttatacca aatgacatcc cagcttgaat gcatgacactg gaatcagatg 1140

aacttaggag ccacctaataa gggccacagc acaggtagc agagcgataa ccacacaacg 1200
 cccatcctct gcggagccca atacagaata cacacgcacg gtgtcttcag aggcattcag 1260
 tga 1263

<210> 390

<211> 1707

<212> DNA

<213> Homo sapiens

<400> 390

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 accgccttcc tcggcttggg tgggtcgac aacaacggca acggcgacg agtccaacgc 180
 gtggtcggg ggcgtccggc ggcaagtctc ggcatctca cccgcgacgt gatcaccgc 240
 gtcgacggcg ctccgatcaa ctcggccacc gcgatggcg acgcgtttaa cgggcacatcat 300
 cccggtgacg tcatctcggt gacctggcaa accaagtctg gccgcacgcg tacagggAAC 360
 gtgacattgg cggaggacc cccggccgaa ttcccgtgg tgccgcgcg cagcccgatg 420
 ggctccgacg ttccggaccc gaaacgcactg ctgcggccag ttccgtccct gggtggttgt 480
 ggtggttgcg cactgccgt tagcggtgcg gcacagtggg ctccgggtct ggacttcgca 540
 ccgcgggtg catccgcata cgggtccctg ggtggccgg caccgcgcg ggcaccgcg 600
 ccgcggccgc cgccggccgc gactccttc atcaaacagg aaccgagctg gggtggtgca 660
 gaaccgcacg aagaacagtg cctgagcgc ttcaccgttcc acttctccgg ccagttcact 720
 ggcacagccg gaggctgtcg ctacgggccc ttccgtccctc ctccggccag ccaggcgtca 780
 tccggccagg ccaggatgtt ttccgtccgc ccctacgtc ccagctgcct cgagagccag 840
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 ggtgtgaaac cattccagtg taaaacttgt cagcgaaagt ttcggccgtc cgaccacctg 1560
 aagacccaca ccaggactca tacaggtgaa aagccctca gttgtcggtg gccaagttgt 1620
 cagaaaaagt ttggccggc agatgaatta gtccggccatc acaacatgca tcagagaaac 1680
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<210> 391

<211> 344

<212> PRT

<213> Homo sapiens

<400> 391

Met	Thr	Ala	Ala	Ser	Asp	Asn	Phe	Gln	Leu	Ser	Gln	Gly	Gly	Gln	Gly
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Phe	Ala	Ile	Pro	Ile	Gly	Gln	Ala	Met	Ala	Ile	Ala	Gly	Gln	Ile	Lys
20								25					30		

Leu	Pro	Thr	Val	His	Ile	Gly	Pro	Thr	Ala	Phe	Leu	Gly	Leu	Gly	Val
35								40					45		

Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser
 50 55 60

Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala
 65 70 75 80

Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu
 85 90 95

Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys
 100 105 110

Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro
 115 120 125

Ala Glu Phe His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala
 130 135 140

Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser
 145 150 155 160

Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly
 165 170 175

Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro
 180 185 190

Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg
 195 200 205

Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly
 210 215 220

His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys
 225 230 235 240

His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr
 245 250 255

Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys
 260 265 270

Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn
 275 280 285

Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met
 290 295 300

Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp
 305 310 315 320

Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr
 325 330 335

His Gly Val Phe Arg Gly Ile Gln
340

<210> 392

<211> 568

<212> PRT

<213> Homo sapiens

<400> 392

Met Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly
5 10 15

Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys
20 25 30

Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val
35 40 45

Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser
50 55 60

Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala
65 70 75 80

Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu
85 90 95

Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys
100 105 110

Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro
115 120 125

Ala Glu Phe Pro Leu Val Pro Arg Gly Ser Pro Met Gly Ser Asp Val
130 135 140

Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly
145 150 155 160

Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val
165 170 175

Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly
180 185 190

Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro His
195 200 205

Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu
210 215 220

Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr

225	230	235	240
Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro			
245	250	255	
Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr			
260	265	270	
Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr			
275	280	285	
Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser			
290	295	300	
His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro			
305	310	315	320
Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro			
325	330	335	
Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln			
340	345	350	
Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met			
355	360	365	
Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala			
370	375	380	
Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr			
385	390	395	400
Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe			
405	410	415	
Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu			
420	425	430	
Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala			
435	440	445	
Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met			
450	455	460	
His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys			
465	470	475	480
Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln			
485	490	495	
Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg			
500	505	510	
Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr			

515

520

525

Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe
 530 535 540

Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn
 545 550 555 560

Met Thr Lys Leu Gln Leu Ala Leu
 565

<210> 393

<211> 420

<212> PRT

<213> Homo sapiens

<400> 393

Met Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly
 5 10 15

Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys
 20 25 30

Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val
 35 40 45

Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser
 50 55 60

Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala
 65 70 75 80

Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu
 85 90 95

Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys
 100 105 110

Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro
 115 120 125

Ala Glu Phe Pro Leu Val Pro Arg Gly Ser Pro Met Gly Ser Asp Val
 130 135 140

Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly
 145 150 155 160

Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val
 165 170 175

Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly
 180 185 190

Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His
 195 200 205

Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu
 210 215 220

Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr
 225 230 235 240

Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro
 245 250 255

Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr
 260 265 270

Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr
 275 280 285

Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser
 290 295 300

His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro
 305 310 315 320

Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro
 325 330 335

Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln
 340 345 350

Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met
 355 360 365

Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala
 370 375 380

Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr
 385 390 395 400

Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe
 405 410 415

Arg Gly Ile Gln
 420

<210> 394
 <211> 362
 <212> PRT
 <213> Homo sapiens

<400> 394
 Met His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro
 5 10 15

His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln
 20 25 30

Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro
 35 40 45

Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala
 50 55 60

Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln
 65 70 75 80

Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr
 85 90 95

Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu
 100 105 110

Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val
 115 120 125

Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly
 130 135 140

Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr
 145 150 155 160

Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu
 165 170 175

Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His
 180 185 190

Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly
 195 200 205

Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro
 210 215 220

Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met
 225 230 235 240

Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu
 245 250 255

Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp
 260 265 270

Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg
 275 280 285

His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys
 290 295 300

Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr
 305 310 315 320

His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys
 325 330 335

Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln
 340 345 350

Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 355 360

<210> 395

<211> 214

<212> PRT

<213> Homo sapiens

<400> 395

Met His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro
 5 10 15

His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln
 20 25 30

Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro
 35 40 45

Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala
 50 55 60

Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln
 65 70 75 80

Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr
 85 90 95

Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu
 100 105 110

Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val
 115 120 125

Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly
 130 135 140

Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr
 145 150 155 160

Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu
 165 170 175

Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His

180	185	190
Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly		
195	200	205
Val Phe Arg Gly Ile Gln		
210		

<210> 396		
<211> 30		
<212> DNA		
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<223> PCR primer		
 <400> 396		
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<211> 31		
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<223> PCR primer		
 <400> 397		
cgcgtgaatt catcactgaa tgcctctgaa g	31	
 <210> 398		
<211> 31		
<212> DNA		
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 <400> 398		
cgataagcat atgacggccg cgtccgataaa c	31	
 <210> 399		
<211> 31		
<212> DNA		
<213> Artificial Sequence		
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 <400> 399		
cgcgtgaatt catcactgaa tgcctctgaa g	31	

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<210> 400
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 400
cgataagcat atgacggccg cgtccgataa c 31

<210> 401
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 401
gtctgcagcg gccgctcaaa gcgccagc 28

<210> 402
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 402
gacgaaagca tatgactcc ttcataaac 30

<210> 403
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 403
gtctgcagcg gccgctcaaa gcgccagc 28

<210> 404
<211> 449
<212> PRT
<213> Homo sapiens

<400> 404
Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
1 5 10 15
Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala

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20	25	30	
Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr			
35	40	45	
Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro			
50	55	60	
Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly			
65	70	75	80
Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe			
85	90	95	
Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe			
100	105	110	
Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe			
115	120	125	
Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile			
130	135	140	
Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr			
145	150	155	160
Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe			
165	170	175	
Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln			
180	185	190	
Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser			
195	200	205	
Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp			
210	215	220	
Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln			
225	230	235	240
Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser			
245	250	255	
Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu			
260	265	270	
Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile			
275	280	285	
His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro			
290	295	300	
Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys			
305	310	315	320
Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys			
325	330	335	
Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro			
340	345	350	
Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp			
355	360	365	
Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln			
370	375	380	
Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr			
385	390	395	400
His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys			
405	410	415	
Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val			
420	425	430	
Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala			
435	440	445	
Leu			

<210> 405
 <211> 428
 <212> PRT
 <213> Homo sapiens

<400> 405
 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
 1 5 10 15
 Ser Pro Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Thr
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Val Pro Pro Gly Ala Pro Val Cys
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Leu Pro
 50 55 60
 Pro Pro Pro Ser His Ser Phe Thr Lys Gln Glu Pro Ser Trp Gly Gly
 65 70 75 80
 Thr Glu Pro His Ala Gly Gln Gly Arg Ser Ala Leu Val Ala His Ser
 85 90 95
 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
 100 105 110
 Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
 115 120 125
 Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
 130 135 140
 Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
 145 150 155 160
 Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Ser
 165 170 175
 Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Pro Gly Glu Gln Gln
 180 185 190
 Tyr Ser Ala Pro Pro Val Cys Gly Cys Arg Thr Pro Thr Gly Ser
 195 200 205
 Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Ala Pro Tyr Ser Gly Gly
 210 215 220
 Asp Leu His Gln Thr Thr Ser Gln Leu Gly His Met Ala Trp Asn Gln
 225 230 235 240
 Thr Asn Leu Gly Ala Thr Leu Lys Gly His Gly Thr Gly Tyr Glu Ser
 245 250 255
 Asp Asp His Thr Thr Pro Ile Leu Cys Gly Thr Gln Tyr Arg Ile Arg
 260 265 270
 Ala Arg Gly Val Leu Arg Gly Thr Gln Asp Val Arg Cys Val Pro Gly
 275 280 285
 Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg
 290 295 300
 Pro Leu Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg His Phe Lys Pro
 305 310 315 320
 Ser Arg Leu Arg Val Arg Gly Arg Glu Arg Thr Gly Glu Lys Pro Tyr
 325 330 335
 Gln Arg Asp Phe Lys Asp Arg Gly Arg Gly Leu Leu Arg Pro Asp Gln
 340 345 350
 Leu Lys Arg His Gln Arg Gly His Thr Gly Val Lys Pro Leu Gln Cys

355	360	365
Glu Ala Arg Arg Arg Pro Pro Arg Pro Gly His Leu Lys Val His Thr		
370	375	380
Arg Thr His Thr Gly Gly Glu Pro Phe Ser Cys Arg Trp Pro Ser Cys		
385	390	395
Gln Glu Lys Scr Ala Arg Pro Asp Glu Ser Ala Arg Arg His Asn Met		
405	410	415
His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu		
420	425	

<210> 406
<211> 414
<212> PRT
<213> *Homo sapiens*

<220>
<221> VARIANT
<222> 85, 86, 172, 173, 242, 245, 246, 247
<223> Xaa = Any Amino Acid

<400> 406
 Met Gly Ser Asp Val Arg Asp Leu Ser Ala Leu Leu Pro Ala Val Pro
 1 5 10 15
 Ser Leu Gly Asp Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala His
 35 40 45
 Gly Pro Leu Gly Gly Pro Ala Pro Pro Ser Ala Pro Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Gly Pro Ser Trp Gly Gly
 65 70 75 80
 Ala Glu Leu His Xaa Xaa Gln Tyr Leu Ser Ala Phe Thr Val His Ser
 85 90 95
 Ser Gly Gln Val His Trp His Gly Arg Gly Leu Ser Leu Arg Ala Pro
 100 105 110
 Arg Pro Pro Ser Ala Gln Pro Gly Val Ile Arg Pro Gly Gln Asp Val
 115 120 125
 Ser Arg Ala Leu Pro Ala Gln Pro Pro Arg Glu Pro Ala Arg Tyr Pro
 130 135 140
 Gln Ser Gly Leu Gln His Gly His Leu Arg Arg Gly Val Arg Leu Arg
 145 150 155 160
 Ser His Ala Leu Ala Pro Cys Gly Ala Val Leu Xaa Xaa Thr Arg Ala
 165 170 175
 Gly Ser His Gly Pro Ala Gly Ser Ala Gly Ala Ala Val Leu Gly Ala
 180 185 190
 Ala Pro Gly Leu Trp Pro Pro His Pro Arg Arg Gln Leu Arg Arg Gln
 195 200 205
 Pro Gly Phe Ala Ala Glu Gly Ala Leu Gln Arg Arg Phe Ile Pro Ser
 210 215 220
 Asp Val Pro Ala Val His Gly Leu Glu Ser Asp Glu Pro Arg Gly Arg
 225 230 235 240
 Leu Xaa Gly Pro Xaa Xaa Xaa Val Arg Glu Arg Ser His Asn Ala Arg
 245 250 255

Pro Leu Arg Ser Pro Ile Gln Asn Thr His Ala Arg Cys Leu Gln Gly
 260 265 270
 Arg Ser Gly Cys Ala Pro Cys Ala Trp Ser Ser Pro Asp Ser Cys Thr
 275 280 285
 Val Gly Ile Gly Gln Gly Thr Pro Pro His Val Cys Leu Pro Arg Leu
 290 295 300
 Gln Glu Val Ser Glu Ala Ala Pro Leu Thr Asp Ala Arg Glu Ala Arg
 305 310 315 320
 Trp Glu Thr Ile Pro Val Leu Gln Gly Leu Trp Thr Glu Val Phe Leu
 325 330 335
 Leu Arg Pro Ala Gln Lys Thr Pro Gly Glu Ala Tyr Arg Cys Glu Ala
 340 345 350
 Ile Pro Ala Asp Leu Ser Ala Arg Val Leu Pro Ala Gln Pro Pro Glu
 355 360 365
 Asp Pro Arg Gln Asp Ser Cys Arg Lys Ala Pro Gln Leu Ser Val Val
 370 375 380
 Arg Leu Ser Glu Lys Ala Cys Pro Val Lys Val Gly Pro Pro Ser Arg
 385 390 395 400
 His Ala Ser Glu Gly His Asp Arg Thr Pro Ala Gly Ala Leu
 405 410

<210> 407
 <211> 417
 <212> PRT
 <213> Homo sapiens

<400> 407

Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Ser	Ala	Leu	Leu	Pro	Thr	Ala	Pro
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Ser	Leu	Gly	Gly	Gly	Gly	Asp	Cys	Thr	Leu	Pro	Val	Ser	Gly	Thr	Ala
							20		25			30			
Gln	Trp	Ala	Pro	Val	Pro	Ala	Ser	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr
							35		40			45			
Asp	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro
					50		55		60						
Pro	Pro	Pro	Pro	His	Ser	Cys	Gly	Glu	Gln	Gly	Pro	Ser	Trp	Gly	Gly
65					70			75			80				
Ala	Glu	Pro	Arg	Glu	Gly	Gln	Cys	Leu	Ser	Ala	Pro	Ala	Val	Arg	Phe
						85		90			95				
Ser	Gly	Arg	Phe	Thr	Gly	Thr	Val	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Leu
						100		105			110				
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Pro	Ser	Gly	Gln	Thr	Arg	Met	Leu
						115		120			125				
Pro	Ser	Ala	Pro	Tyr	Leu	Ser	Ser	Cys	Leu	Arg	Ser	Arg	Ser	Ala	Ile
					130		135		140						
Arg	Ser	Gln	Gly	Arg	Ser	Thr	Ala	Pro	Ser	Ala	Gly	Arg	Pro	Ala	Met
145						145		150			155			160	
Ala	Pro	Thr	Leu	Ala	Pro	Pro	Ala	Gln	Ser	His	Tyr	Ser	Gln	His	Gly
							165		170			175			
Val	Leu	His	Gly	Pro	Ala	Gly	Leu	Ala	Gly	Ala	Ala	Val	Leu	Gly	Ala
					180			185			190				
Ala	Pro	Gly	Leu	Trp	Leu	Pro	His	Pro	His	Arg	Gln	Leu	His	Arg	Gln
					195		200			205					

Pro Gly Phe Ala Ala Glu Asp Ala Leu Gln Gln Gln Phe Ile Pro Asn
 210 215 220
 Asp Ile Pro Ala Met His Asp Leu Glu Ser Asp Glu Leu Arg Ser His
 225 230 235 240
 Leu Lys Gly Pro Gln His Arg Val Arg Glu Arg Pro His Asn Ala His
 245 250 255
 Pro Leu Arg Ser Pro Ile Gln Asn Thr His Ala Arg Cys Leu Gln Arg
 260 265 270
 His Ser Gly Cys Ala Thr Cys Ala Trp Ser Ser Pro Asp Ser Cys Thr
 275 280 285
 Val Ala Pro Glu Thr Ser Glu Asn Ala Pro Trp Cys Val Leu Pro Gly
 290 295 300
 Leu Gln Gly Val Phe Ala Val Pro Leu Thr Gly Ala Gln Gln Glu Ala
 305 310 315 320
 His Trp Asp Ala Thr Pro Val Arg Leu Gln Gly Pro Trp Thr Arg Ala
 325 330 335
 Ser Pro Phe Gly Thr Ser Pro Arg Asp Thr Lys Gly Asp Ile Gln Val
 340 345 350
 Arg Asn His Ser Ser Val Arg Leu Val Ser Glu Gly Ser Pro Gly Pro
 355 360 365
 Thr Thr Gly Pro Thr Pro Gly Pro Thr Arg Val Gly Ser Pro Ser Ala
 370 375 380
 Ala Gly Gly Gln Ala Ala Arg Glu Gly Ser Pro Ser Gln Thr Asn Ser
 385 390 395 400
 Val Ile Thr Thr Cys Ile Ser Glu Thr Leu Asn Ser Ser Trp Arg Phe
 405 410 415
 Glu

<210> 408
 <211> 429
 <212> PRT
 <213> Homo sapiens

<400> 408
 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
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 Ser Leu Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Ala Pro Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
 65 70 75 80
 Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
 85 90 95
 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
 100 105 110
 Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
 115 120 125
 Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
 130 135 140

Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
 145 150 155 160
 Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
 165 170 175
 Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
 180 185 190
 Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
 195 200 205
 Cys Thr Gly Ser Gln Ala Leu Leu Arg Thr Pro Tyr Ser Ser Asp
 210 215 220
 Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
 225 230 235 240
 Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser
 245 250 255
 Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His
 260 265 270
 Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly
 275 280 285
 Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg
 290 295 300
 Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu
 305 310 315 320
 Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr
 325 330 335
 Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln
 340 345 350
 Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys
 355 360 365
 Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His
 370 375 380
 Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser
 385 390 395 400
 Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn
 405 410 415
 Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 420 425

<210> 409
 <211> 495
 <212> PRT
 <213> Homo sapiens

<400> 409
 Met Ala Ala Pro Gly Ala Arg Arg Ser Leu Leu Leu Leu Leu Ala
 1 5 10 15
 Gly Leu Ala His Gly Ala Ser Ala Leu Phe Glu Asp Leu Met Gly Ser
 20 25 30
 Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly
 35 40 45
 Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala
 50 55 60
 Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu
 65 70 75 80

Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro His
 85 90 95
 Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu
 100 105 110
 Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr
 115 120 125
 Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro
 130 135 140
 Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr
 145 150 155 160
 Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr
 165 170 175
 Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser
 180 185 190
 His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro
 195 200 205
 Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro
 210 215 220
 Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln
 225 230 235 240
 Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met
 245 250 255
 Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala
 260 265 270
 Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr
 275 280 285
 Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe
 290 295 300
 Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu
 305 310 315 320
 Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala
 325 330 335
 Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met
 340 345 350
 His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys
 355 360 365
 Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln
 370 375 380
 Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 385 390 395 400
 Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
 405 410 415
 Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe
 420 425 430
 Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn
 435 440 445
 Met Thr Lys Leu Gln Leu Ala Leu Leu Asn Asn Met Leu Ile Pro Ile
 450 455 460
 Ala Val Gly Gly Ala Leu Ala Gly Leu Val Leu Ile Val Leu Ile Ala
 465 470 475 480
 Tyr Leu Ile Gly Arg Lys Arg Ser His Ala Gly Tyr Gln Thr Ile
 485 490 495

<210> 410
 <211> 504
 <212> PRT
 <213> Homo sapiens

<400> 410
 Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ile Thr Leu Glu
 1 5 10 15
 Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp
 20 25 30
 Lys Glu Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys
 35 40 45
 Gln Leu Glu Asp Gly Arg Thr Leu Ser Asp Tyr Asn Ile Gln Lys Glu
 50 55 60
 Ser Thr Leu His Leu Val Leu Arg Leu Arg Gly Ala Met Gly Ser Asp
 65 70 75 80
 Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly
 85 90 95
 Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro
 100 105 110
 Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly
 115 120 125
 Gly Pro Ala Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro His
 130 135 140
 Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu
 145 150 155 160
 Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr
 165 170 175
 Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro
 180 185 190
 Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr
 195 200 205
 Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr
 210 215 220
 Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser
 225 230 235 240
 His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro
 245 250 255
 Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro
 260 265 270
 Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln
 275 280 285
 Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met
 290 295 300
 Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala
 305 310 315 320
 Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr
 325 330 335
 Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe
 340 345 350
 Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu
 355 360 365
 Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala
 370 375 380

Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met
 385 390 395 400
 His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys
 405 410 415
 Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln
 420 425 430
 Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 435 440 445
 Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
 450 455 460
 Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe
 465 470 475 480
 Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn
 485 490 495
 Met Thr Lys Leu Gln Leu Ala Leu
 500

<210> 411

<211> 10

<212> PRT

<213> Homo sapiens

<400> 411

Val Leu Asp Phe Ala Pro Pro Gly Ala Ser
 1 5 10

<210> 412

<211> 15

<212> PRT

<213> Homo sapiens

<400> 412

Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala
 1 5 10 15

<210> 413

<211> 15

<212> PRT

<213> Homo sapiens

<400> 413

Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu
 1 5 10 15

<210> 414

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 414
Ile Leu Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 415
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 415
Leu Leu Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 416
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 416
Phe Leu Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 417
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 417
Lys Leu Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 418
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 418
Met Leu Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 419
<211> 9
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<220>
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<400> 419
Tyr Leu Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 420
<211> 9
<212> PRT
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<220>
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<400> 420
Val Met Asp Phe Ala Pro Pro Gly Ala
1 5

<210> 421
<211> 9
<212> PRT
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<220>
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<400> 421
Val Leu Asp Glu Ala Pro Pro Gly Ala
1 5

<210> 422
<211> 9
<212> PRT
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<220>
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<400> 422
Val Leu Asp Lys Ala Pro Pro Gly Ala

1

5

<210> 423
<211> 9
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<400> 423
Val Leu Asp Phe Ala Val Pro Gly Ala
1 5

<210> 424
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 424
Val Leu Asp Phe Ala Pro Pro Lys Ala
1 5

<210> 425
<211> 9
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<220>
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<400> 425
Val Leu Asp Phe Ala Pro Pro Gly Val
1 5

<210> 426
<211> 9
<212> PRT
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<220>
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<400> 426
Val Leu Asp Phe Ala Pro Pro Gly Leu
1 5

<210> 427
<211> 9
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<400> 427
Phe Leu Asp Glu Ala Pro Pro Gly Ala
1 5

<210> 428
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 428
Lys Leu Asp Glu Ala Pro Pro Gly Ala
1 5

<210> 429
<211> 9
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<400> 429
Tyr Leu Asp Glu Ala Pro Pro Gly Ala
1 5

<210> 430
<211> 9
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<213> Artificial Sequence

<220>
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<400> 430
Phe Leu Asp Lys Ala Pro Pro Gly Ala
1 5

<210> 431

<211> 9
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<400> 431
Lys Leu Asp Lys Ala Pro Pro Gly Ala
1 5

<210> 432
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 432
Tyr Leu Asp Lys Ala Pro Pro Gly Ala
1 5

<210> 433
<211> 9
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<213> Artificial Sequence

<220>
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<400> 433
Phe Leu Asp Phe Ala Pro Pro Gly Val
1 5

<210> 434
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 434
Lys Leu Asp Phe Ala Pro Pro Gly Val
1 5

<210> 435
<211> 9
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<213> Artificial Sequence

<220>

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<400> 435

Tyr Leu Asp Phe Ala Pro Pro Gly Val
1 5

<210> 436

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 436

Phe Leu Asp Phe Ala Pro Pro Gly Leu
1 5

<210> 437

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 437

Lys Leu Asp Phe Ala Pro Pro Gly Leu
1 5

<210> 438

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 438

Tyr Leu Asp Phe Ala Pro Pro Gly Leu
1 5

<210> 439

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 439

Phe Leu Asp Glu Ala Pro Pro Gly Val
1 5

<210> 440

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 440

Lys Leu Asp Glu Ala Pro Pro Gly Val
1 5

<210> 441

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 441

Tyr Leu Asp Glu Ala Pro Pro Gly Val
1 5

<210> 442

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 442

Phe Leu Asp Glu Ala Pro Pro Gly Leu
1 5

<210> 443

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 443
Lys Leu Asp Glu Ala Pro Pro Gly Leu
1 5

<210> 444
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 444
Tyr Leu Asp Glu Ala Pro Pro Gly Leu
1 5

<210> 445
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 445
Val Leu Asp Phe Ala Gly Pro Gly Ala
1 5

<210> 446
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 446
Val Leu Asp Phe Ala Thr Pro Gly Ala
1 5

<210> 447
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 447

Val Leu Asp Phe Ala Thr Pro Gly Val
1 5

<210> 448
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 448
Val Leu Asp Phe Ala Thr Pro Gly Leu
1 5

<210> 449
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 449
Val Leu Asp Phe Ala Thr Pro Gly Ser
1 5

<210> 450
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 450
Val Leu Asp Phe Ala Thr Pro Gly Ala
1 5

<210> 451
<211> 9
<212> PRT
<213> Homo sapiens

<400> 451
Ala Leu Leu Pro Ala Val Pro Ser Leu
1 5

<210> 452
<211> 969

<212> DNA

<213> Homo sapiens

<400> 452

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 cacggctccg acgttcggga cctgaacgc ctcgtccgg cagttccgtc cctgggtgg 180
 ggtgggtggt ggcactgccc ggttagcggt gcagcacagt ggctccggt tctggacttc 240
 gcaccggccgg gtgcattccgc atacggttcc ctgggtggtc cggcaccggc gccggcaccg 300
 cccggccggc cggccggcc gccgcactcc ttcatcaaacc aggaaccgag ctgggtgg 360
 gcagaaccgc acgaagaaca gtgcctgagg gcattcaccg ttcaacttctc cggccagttc 420
 actggcacag ccggagccctg tcgctacggg cccttcggtc ctccctccggc cagccaggcg 480
 tcattccggcc aggccaggat gtttcttaac ggcgccttacc tgcccagctg cctcgagagc 540
 cagcccgcta ttgcataatca ggtttacagc acggtcaccc tcgacgggac gcccagctac 600
 ggtcacacgc ctcgcacca tgcggcgac ttcccaacc actcattcaa gcatgaggat 660
 cccatggggcc agcagggtctc gctgggtggag cagcagttact cgtgcccggc cccggcttat 720
 ggctgcccaca ccccccaccga cagctgcacc ggcagccagg ctgggtgtct gaggacgccc 780
 tacagcagtg acaatttata ccaaattgaca tcccagctt aatgcattgac ctgaaatcag 840
 atgaacttag gagccacccaa aagggccac agcacagggt acgagagcga taaccacaca 900
 acgcccattcc tctgcccggc ccaatacaga atacacacgc acgggttctt cagaggcatt 960
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969

<210> 453

<211> 1410

<212> DNA

<213> Homo sapiens

<400> 453

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 cacggctccg acgttcggga cctgaacgc ctcgtccgg cagttccgtc cctgggtgg 180
 ggtgggtggt ggcactgccc ggttagcggt gcagcacagt ggctccggt tctggacttc 240
 gcaccggccgg gtgcattccgc atacggttcc ctgggtggtc cggcaccggc gccggcaccg 300
 cccggccggc cggccggcc gccgcactcc ttcatcaaacc aggaaccgag ctgggtgg 360
 gcagaaccgc acgaagaaca gtgcctgagg gcattcaccg ttcaacttctc cggccagttc 420
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 tcattccggcc aggccaggat gtttcttaac ggcgccttacc tgcccagctg cctcgagagc 540
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 ggtcacacgc ctcgcacca tgcggcgac ttcccaacc actcattcaa gcatgaggat 660
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 atgaacttag gagccacccaa aagggccac agcacagggt acgagagcga taaccacaca 900
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 ctgaagaccc acaccaggac tcatacagggt gaaaaggccct tcagctgtcg gtggccaagt 1320
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<210> 454

<211> 469

<212> PRT

<213> Homo sapiens

<400> 454

Met	Asn	Asn	Asn	Asp	Leu	Phe	Gln	Ala	Ser	Arg	Arg	Arg	Phe	Leu	Ala
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Gln	Leu	Gly	Gly	Leu	Thr	Val	Ala	Gly	Met	Leu	Gly	Pro	Ser	Leu	Leu
20									25					30	

Thr	Pro	Arg	Arg	Ala	Thr	Ala	Ala	His	Gly	Ser	Asp	Val	Arg	Asp	Leu
35									40				45		

Asn	Ala	Leu	Leu	Pro	Ala	Val	Pro	Ser	Leu	Gly	Gly	Gly	Gly	Cys
50									55			60		

Ala	Leu	Pro	Val	Ser	Gly	Ala	Ala	Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe
65									70			75		80	

Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr	Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro
85									90				95		

Pro	Pro	Ala	Pro	His	Ser	Phe	Ile								
100									105			110			

Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys
115									120			125			

Leu	Ser	Ala	Phe	Thr	Val	His	Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala
130									135			140			

Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe	Gly	Pro	Pro	Pro	Ser	Gln	Ala	
145									150			155		160	

Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser
165									170			175			

Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val
180									185			190			

Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala
195									200			205			

Ala	Gln	Phe	Pro	Asn	His	Ser	Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln
210									215			220			

Gln	Gly	Ser	Leu	Gly	Glu	Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	
225									230			235		240	

Gly	Cys	His	Thr	Pro	Thr	Asp	Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu
245									250			255			

Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

260	265	270
Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys		
275	280	285
Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Pro Ile Leu		
290	295	300
Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile		
305	310	315
Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser		
325	330	335
Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly		
340	345	350
Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg		
355	360	365
Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu		
370	375	380
Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His		
385	390	395
Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser		
405	410	415
Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys		
420	425	430
Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser		
435	440	445
Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr Lys		
450	455	460
Leu Gln Leu Ala Leu		
465		
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<211> 321		
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<400> 455		
Met Asn Asn Asn Asp Leu Phe Gln Ala Ser Arg Arg Arg Phe Leu Ala		
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Gln Leu Gly Gly Leu Thr Val Ala Gly Met Leu Gly Pro Ser Leu Leu		
20	25	30

Thr Pro Arg Arg Ala Thr Ala Ala His Gly Ser Asp Val Arg Asp Leu
 35 40 45

Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys
 50 55 60

Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe
 65 70 75 80

Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro
 85 90 95

Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile
 100 105 110

Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys
 115 120 125

Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala
 130 135 140

Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala
 145 150 155 160

Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser
 165 170 175

Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val
 180 185 190

Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala
 195 200 205

Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln
 210 215 220

Gln Gly Ser Leu Gly Glu Gln Tyr Ser Val Pro Pro Pro Val Tyr
 225 230 235 240

Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu
 245 250 255

Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln
 260 265 270

Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys
 275 280 285

Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu
 290 295 300

Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile
 305 310 315 320

Gln

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<212> DNA		
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<223> PCR primer		
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cgcgtgaatt catcaactgaa tgcctctgaa g		
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ggctccgacg tgcgggacct g		
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<210> 460		
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<212> DNA		
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<400> 460

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 ggtggttgcg cactggcggt tagcggtgca gcacagtggg ctccgggttct ggacttcgca 120
 ccggccgggtg catccgcata cggttccctg ggtggtccgg caccggccgc ggcaccggcc 180
 cccgcccgcgc cgccggccgc gcactccttc atcaaacagg aaccgagctg ggggtggtgca 240
 gaaccgcacg aagaacagtq cctgagcgca ttcaccgttc acttctccgg ccagttcact 300
 ggcacagccg gggcctgtcg ctacgggccc ttccgggtcctc ctccggccag ccaggcgtca 360
 tccggccagg ccaggatgtt tcctaacgcg ccctacctgc ccagctgcct cgagagccag 420
 cccgctatttca gcaatcaggg ttacagcactg gtcacccctcg acgggacgccc cagctacqgt 480
 cacacgccttgcg cgcaccatgc ggcgcagttc cccaaaccact cattcaagca tgaggatccc 540
 atggggccagc agggctcgct ggggtgagcag cagtactcgg tgccggccccc ggtctatggc 600
 tgccacaccc ccaccggacag ctgcacccggc agccaggctt tgctgctgag gacgcctac 660
 agcagtgaca atttatacca aatgacatcc cagctttaat gcatgacactg gaatcagatg 720
 aacttaggag ccacctaataa gggccacagc acagggtacg agagcgataa ccacacaacg 780
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<210> 461

<211> 280

<212> PRT

<213> Homo sapiens

<400> 461

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 Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln
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 Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly
 35 40 45
 Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala
 65 70 75 80
 Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser
 85 90 95
 Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly
 100 105 110
 Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro
 115 120 125
 Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg
 130 135 140
 Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly
 145 150 155 160
 His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys
 165 170 175
 His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr
 180 185 190
 Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys
 195 200 205
 Thr Gly Ser Gln Ala Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn
 210 215 220
 Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met
 225 230 235 240
 Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr Gly Glu Ser Asp

245	250	255
Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr		
260	265	270
His Gly Val Phe Arg Gly Ile Gln		
275	280	